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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/750,386	12/27/2000	John S. Sadowsky	42390P9858	6353

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EXAMINER	
PATHAK, SUDHANSHU C	
ART UNIT	**PAPER NUMBER**
2611	
MAIL DATE	**DELIVERY MODE**
05/15/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/750,386	SADOWSKY, JOHN S.	
	Examiner	Art Unit	
	Sudhanshu C. Pathak	2611	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *April 5th, 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,7-23 and 25-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,7-23 and 25-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *July 6th, 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1, 3, 7-23 & 25-27 are pending in the application.

2. Claim 2, 4-6 & 24 has been canceled.

Response to Arguments

3. Applicant's arguments with respect to claims 1, 3, 7-23 & 25-27 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 1, 3, 8, 10-12, 14-15, 17-23 & 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pellon (5,392,042) in view of Khlat et al (6,678,340).

Regarding to Claims 1, 3, 8, 10-12, 14-15, 17-23 & 25-27, Pellon discloses a portable communication device (Column 1, lines 15-22 & Column 11, lines 12-20 & Column 20, lines 20-40) comprising an analog-to-digital converter to provide a digital output signal (Fig. 2a, element 210 & Column 3, lines 3-19 & Column 4, lines 27-43); a signal generator coupled to the digital output signal to generate a feedback signal (Fig. 2a, elements 218, 206, 201b & Column 3, lines 9-14 & Column 4, lines 7-48 & Column 12, lines 29-38); and wherein the portable communication device is adapted to subtract the feedback signal from an intermediate frequency (IF) signal (Fig. 2a, elements 202, 254, 206, 201b, 203 & Fig. 10, elements 1026, 700 & Column 2, lines

51-68 & Column 11, lines 16-18 & Column 20, lines 26-40 & Column 21, lines 40-51) wherein the signal generator comprises a amplitude (phase) shift key modulator (Fig. 2a, element 218 & Fig. 5, element 218 & Fig. 7a, element 218) {Interpretation: as the ADC is a 1-bit converter the ASK becomes a BPSK modulator. Furthermore, the functionality of a DAC is the same as the ASK as is disclosed in the instant specification}. Pellon also discloses the portable communication device further comprising a filter adapted to provide a filtered signal with a bandwidth, wherein the signal generator generates a feedback signal that reduces the difference between the IF signal and the feedback signal over at least a portion of the bandwidth of the filtered signal (Abstract, lines 1-18 & Fig. 2a, elements 216, 204, 202, 218 & Column 1, lines 35-50 & Column 2, lines 51-68 & Column 3, lines 3-5 & Column 4, lines 7-21 & Column 5, lines 63-68 & Column 11, lines 11-20 & Column 12, lines 12-29 & Fig. 10, elements 1024, 1026, 700 & Fig. 7a & Column 20, lines 20-60). Pellon also discloses the portable communication device further comprising an integrator coupled to receive the subtracted signal (Fig. 2a, element 204 & Fig. 2b & Column 2, lines 57-68 & Column 3, lines 20-38 & Column 7, lines 14-40). Pellon further discloses in radar applications wherein the received signals are heterodyned from a higher center frequency down to baseband and then converted from analog to digital domain to produce digital in-phase and quadrature components (Column 19, lines 11-20). Pellon also discloses the portable communication device further comprising an antenna adapted to receive a radio frequency signal (Fig. 10, element 1020), and the received RF signal is converted to an IF signal inputted into the apparatus (Fig.

10, elements 1024, 1026, 700). Pellon also discloses the portable communication device further comprising a storage medium having stored instructions to execute the processing of the received signal (Fig. 10, element 1030). However, Pellon does not explicitly disclose a multiplier to extract an in-phase part of the IF signal.

Khlat discloses a super-heterodyne receiver for receiving a radio frequency signal comprising a down-conversion stage for down converting the received RF signal to a complex intermediate frequency signal (Abstract, lines 1-5 & Fig. 1, element 20). Khlat further discloses the down converter comprising a multiplier to extract an in-phase part of the IF signal (Fig. 1, element 22 & Column 1, lines 5-26). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Khlat teaches a multiplier to extract an in-phase part of the IF signal and this is implemented in the communication device as described in Pellon so as to down convert the received RF signal to an IF signal and avoid the DC-offset noise in the baseband signal so as to be able to reliably demodulate the information data received.

6. Claims 7, 9, 13 & 16, are rejected under 35 U.S.C. 103(a) as being unpatentable over Pellon in view of Khlat et al (6,678,340) in further view of Ko et al. (6,577,674).

Regarding to Claims 7, 9, 13 & 16, Pellon in view of Khlat discloses a portable communications device comprising an analog-to-digital converter to provide a digital output signal; a signal generator coupled to the digital output signal to generate a feedback signal wherein the signal generator further comprises a modulator; and

wherein the portable communication device is adapted to subtract the feedback signal from an intermediate frequency (IF) signal so as to reduce the difference between the received IF signal and the feedback signal as described above. Pellon further discloses the ADC resolution (number of output bits) can vary depending on the sampling rate to reduce quantization noise (Column 1, lines 65-68 & Column 2, lines 1-15 & Column 4, lines 11-25 & Column 6, lines 36-58). However, Pellon in view of Khlat in further view of Sklar does not disclose a multiplier adapted to multiply a local oscillator and the received signal.

Ko discloses a receiver in a mobile station comprising a multiplier and a local oscillator (Fig. 1) wherein the incoming signal is down converted to a baseband signal for further processing and retrieving the transmitted data (message) (Fig. 1 & Column 2, lines 26-48). Ko further discloses further sampling the down converted signal for digitally processing the received signal for accurate retrieval (Fig. 1 & Column 2, lines 1-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that it is possible to implement the multiplier and local oscillator as described in Ko in the receiver as described in Pellon in view of Khlat in further view of Sklar so as to further down convert the bandpass filtered IF frequency signal to baseband for accurate sampling and demodulating and this also couples the oscillator to the signal generator which is in the feedback loop. Furthermore, coupling the local oscillator to the modulator can be implemented so as to up convert the baseband signal to the IF frequency in the feedback loop as described in Pellon in view of Sklar, thus satisfying the limitations of the claims.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sudhanshu C. Pathak whose telephone number is (571)-272-3038. The examiner can normally be reached on M-F: 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on (571)-272-3042.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sudhanshu C. Pathak
Examiner
Art Unit 2611

CHIEH M. FAN
SUPERVISORY PATENT EXAMINER